

# Levees

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## ***Overview***

The Delta is the natural drain for a watershed that includes the Central Valley and the western slope of the Sierra Nevada from Fresno to Mount Shasta. Existing flood management and water supply facilities (dams, levees, and bypasses) throughout the watershed influence floodflows to the Delta. Settlers began to farm the rich lands of the Delta by the 1850s. They built low levees to allow land to be drained for farming. Few of these levees were built using modern engineering techniques, and many rest on peat foundations that have settled with the added weight.

The main flood management facilities in the Delta include the approximately 1,100 miles of levees and the Yolo Bypass. The Yolo Bypass, with about 500,000 cubic feet per second (cfs) capacity, was designed to flood occasionally to relieve high water stages on the Sacramento River. Easements held by the Central Valley Flood Protection Board provide the right to inundate the land, including some islands such as Liberty Island, with floodwaters. The lower Sacramento ship channel and the Stockton ship channel provide some flood-carrying capability. Dredging to enlarge and clean Delta channels use to be an important element of flood management.

Levees can fail for various reasons including the burrowing activities of animals, erosion, overtopping, deferred maintenance, seepage through sand layers underlying levee foundations, slope stability and other causes.

Delta levees face risk of high water overtopping during the wet season (winter and spring), particularly when large storms coincide with high tides. Storms contribute to the levee overtopping risk by increasing water levels in the rivers and creating wind-induced waves. In addition, the low barometric pressures associated with large storms raise water surface levels in Delta and Suisun Marsh channels. In many cases, the flooding of the islands has been costly to local residents and farmers and to the state as a whole. Damage to levees could also occur due to sea level rise and other aspects of climate change.

## ***Goal***

Support the improvement, emergency repair, and long-term maintenance of Delta levees and channels.

Promote levee maintenance and rehabilitation to preserve the land areas and channel configurations in the Delta as consistent with the objectives of the Act.

## ***Policies***

### **P-1.**

Local governments shall carefully and prudently carry out their responsibilities to regulate new construction within flood hazard areas to protect public health, safety, and welfare. These responsibilities shall be carried out consistent with applicable regulations concerning the Delta, as well as the statutory language contained in the Delta Protection Act of 1992. Increased flood protection shall not result in residential designations or densities beyond those allowed under zoning and general plan designations in place on January 1, 1992, for lands in the Primary Zone.

### **P-2.**

Support programs for emergency levee repairs and encourage coordination between local, State, and federal governments. The programs may include but are not limited to: interagency agreements and coordination; definition of an emergency; designation of emergency funds; emergency contracting procedures; emergency permitting procedures; and other necessary elements.

### **P-3.**

Support efforts to address levee encroachments that are detrimental to levee maintenance.

### **P-4.**

Support funding assistance for existing unincorporated towns within the Delta to improve levees up to a 200-year flood protection level.

### **P-5.**

Support stockpiling rock in the Delta for levee emergency response.

### **P-6.**

Support a multi-year funding commitment to maintain and restore both project and non-project levees in the Delta.

### **P-7.**

Encourage the beneficial reuse of dredged material, as appropriate, for levee maintenance and rehabilitation, and the maintenance of instream flows. Support and advocate for the Delta Long-Term Management Strategy (LTMS).

### **P-8.**

Seek funding for and support programs to make cost-effective levee investments in order to preserve the economy and character of the Delta.

### **P-9.**

Support a minimum Delta-specific levee design standard as established by state and federal regulations.